REMARKS

Claims 1, 2, 4, 6-26, 28 and 29 are now pending in the application. Claims 1-29 stand rejected. In the interest of expediting prosecution, Claims 3, 5 and 27 have been cancelled, and Claims 1, 4, 6, 11, 12, 24, 26, 28 and 29 have been amended herein. Support for the amendments can be found throughout the application, drawings and claims as originally filed and, as such, no new matter has been presented. The Examiner is respectfully requested to reconsider and withdraw the rejections in view of the amendments and remarks contained herein.

REJECTION UNDER 35 U.S.C. § 101

Claims 11-19, 23 and 29 stand rejected under 35 U.S.C. § 101 because the claimed invention is drawn to non-statutory subject matter since the claims are drawn to an abstract algorithm or disembodied program steps and are not tangible. Applicants have amended the claims to overcome this rejection. Therefore, reconsideration and withdrawal of this rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 112

Claims 1-29 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Claims 1-29 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Applicants have amended the specification to overcome this rejection. As support for these amendments can be found in the claims and drawings as filed, Applicants assert no new matter has been added via this amendment. Therefore, reconsideration and withdrawal of this rejection is respectfully requested.

REJECTION UNDER 35 U.S.C. § 102

Claims 1-29 stand rejected under 35 U.S.C. § 102(b) as being clearly anticipated by Shockley et al. ("Developing an HLA Virtual Command Post; pp. 273-280; Simulation; 1999; hereinafter "Shockley"). This rejection is respectfully traversed.

Initially, Applicants note that Shockley appears to disclose using run time interface with HLA protocol to generate a virtual command post, or virtual environments. Shockley further appears to disclose monitoring the movement of the user and updating the user's movements on the virtual environments to enable the user to view battlefield information. The virtual environments of the Shockley reference include functional command areas, avatar representations of each user, two-dimensional displays for displaying video or Microsoft windows programs, and a three-dimensional sand table representation of the battle area of interest. Shockley does not disclose whatsoever a functional simulation application that interfaces with the virtual environment, or a functional simulation application that is capable of publishing objects based in part on the user input to the virtual environment. In contrast, Applicants independent Claim 1 has been amended to recite:

> . . . the user input communicating comprises publishing via an API module at least one HLA object to the functional simulation application, with the **published HLA object being at least in part defined by the received user input**;
> publishing, by the functional simulation application, an HLA object that corresponds to the determined VE condition; and
> subscribing, by the API module, to the HLA object published by the functional simulation application (emphasis added).

Claim 11 has been amended to recite:

> . . . interfacing a virtual environment simulation application with a functional simulation application via a runtime infrastructure (RTI) interface that communicates data between the two simulation applications according to a **high level architecture (HLA) protocol, and the virtual environment simulation application generates a training environment for a user** (emphasis added).

Claim 12 has been amended to recite:

> . . . a functional simulator that determines the condition for the VE at least in part based upon the user input;
>
> the **VE simulator communicates the user input received by the VE simulation application to the functional simulation application via a high level architecture** (HLA) protocol; and
>
> the functional simulator communicates the condition determined by the functional simulation application to the VE simulation application via the HLA protocol (emphasis added).

Claim 24 recites:

> . . . a library of HLA objects that correspond to a state of the VE that is dependent **at least in part on user interaction with the VE**; and
>
> a processor configured to (1) publish via RTI messaging at least one HLA object to the functional simulation software according to the HLA protocol, (2) subscribe via RTI messaging to at least one HLA object published by the functional simulation software according to the HLA protocol, with the **subscribed HLA object defining at least in part a subsequent state for the VE**, and (3) provide data derived from the subscribed HLA object to the VE software for processing thereby (emphasis added).

Claim 25 recites:

> . . . a library of HLA objects that correspond to a state of the VE that is **dependent at least in part on user interaction with the VE**;
> one or more instructions executable by a computer for publishing, via RTI messaging, at least one HLA object to the functional simulation application according to the HLA protocol;
> one or more instructions executable by a computer for subscribing, via RTI messaging, to at least one HLA object published by the functional simulation application according to the HLA protocol, wherein **the subscribed HLA object defines at least in part a subsequent state for the VE**; and
> one or more instructions executable by a computer for providing data derived from the subscribed HLA object to the VE simulation application for processing thereby (emphasis added).

Claim 26 has been amended to recite:

> . . . the RTI interface comprises an application program interface (API) module that receives user input from the virtual environment simulation application and publishes the user input to the functional simulation application.

Claim 29 has been amended to recite:

> . . . a plurality of user-interactive visual objects that define at least a part of the graphical appearance of the VE;
> a plurality of HLA objects that are defined at least in part by user input received by the visual objects;
> an RTI interface having computer executable instructions to (1) **publish the HLA objects to a functional simulator according to the HLA protocol for processing by the functional simulator to determine a subsequent graphical appearance for the VE** and (2) subscribe to HLA objects published by the functional simulator, the subscribed HLA objects corresponding to the determined subsequent graphical appearance for the VE . . . (emphasis added).

Applicants respectfully assert that Shockley does not disclose, teach or suggest whatsoever each and every element of Claims 1, 11, 12, 24, 25, 26 and 29. In this regard, Shockley does not disclose, teach or suggest publishing an HLA object to a functional simulation application defined at least in part by the received user input or publishing by the functional simulation application an HLA object that corresponds to the determined virtual environment condition. Rather, Shockley appears to disclose how to create a computer representation of 1) objects which simulate real world entities and 2) the dynamic of interaction between these objects.

Specifically, the current VCP architecture federates (Figure 2) are commanders, audio objects, video/2D objects. In this distributed simulation of Shockley, HLA serves as a medium for communication between these objects. A human sensory experience of this simulation includes views of people, battlefield and control environment, computer interfaces, and associated sounds, interaction with technology devices that overall primarily model that of real world human perspective in life scenarios. The HLA of Shockley, at best, communicates data representing state of the objects of interest, and some streamed audio and video, but does not disclose a **functional simulation application that can publish objects based at least in part on the input to the virtual environment**. In contrast, the HLA data of Shockley changes primarily to communicate changes in the simulation environment, including location of the people in this environment, and information transferred primarily between discreetly separate computers representing discreetly separate human views. Thus, Shockley, at best, discloses **the use of HLA to facilitate intercommunication between separate virtual environments connected in federation within a network**.

Applicants note that functional simulations are typically complex software processes which interpret data inputs, and compute resulting state changes for interdependent abstract elements, or **representation of processes** where the solution of a data problem is the primary activity. A functional simulation's inputs and outputs can represent physical world attributes, but a functional simulation often requires representation of more abstract electrical and electronic parameters, the physical nature of mechanical systems, or complex mathematical computation that requires the functional simulation processes be developed and exercised in a manner isolated from the software's human interface. The present disclosure, as claimed, provides an **interface between functional simulations and a virtual environment.**

Accordingly, based on the above discussion, as Shockley does not disclose each and every element of Claims 1, 11, 12, 24, 25, 26 and 29, Applicants respectfully request the Office reconsider and withdraw the rejection of Claims 1, 11, 12, 24, 25, 26 and 29 under 35 U.S.C. §102(b).

With regard to Claims 2, 4, 6-10, 13-23, and 28, Applicants note these claims depend either directly or indirectly from independent Claims 1, 11, 12, 24, 26 or 29, and, thus, these claims should be in condition for allowance for the reasons set forth for Claims 1, 11, 12, 24, 26 and 29 above. Therefore, Applicants respectfully request that the Examiner reconsider and withdraw the rejection of Claims 2, 4, 6-10, 13-23, and 28 under 35 U.S.C. §102(b).

CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicant therefore respectfully requests

that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action and the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: 11/8/06

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